

### **REMARKS**

Claims 1, 3 – 13 and 44 – 49 are now pending in the application. Applicants thank the Examiner for the allowance of claims 44 – 49. Applicants respectfully request that the Examiner reconsider and withdraw the rejection(s) of the remaining claims in view of the remarks contained herein.

Applicants thank the Examiner for the courtesy of the interview with applicants' attorney on January 11, 2005. Applicants' attorney notes that the "Telephonic" box on the Interview Summary was erroneously checked instead of "Personal" and that a copy of the Interview Summary was given to applicants' attorney at the interview.

### **AMENDMENTS TO THE SPECIFICATION**

During an interview also on January 11, 2005 in related co-pending application 10/169,638, it was suggested that any reference to a related application should also be included in the first paragraph of the Specification. Applicants have thus amended the Specification of this application for consistency. In this regard, applicants note that in co-pending application USSN 09/755,330, Herman et al. and Shramo were used to reject certain of the claims.

### **REJECTION UNDER 35 U.S.C. § 102**

Claims 1 and 7 – 13 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Herman et al. (U.S. 5,907,205). Claims 1 and 11 are the independent claims of this group. For the reasons discussed during the interview and herein, applicants submit that these claims are allowable over Herman et al.

Claims 1 and 11 are directed to a brushless DC motor. They require that the end turns of the coils that enclose the rotor assembly are “arranged to minimize any gap between respective ends of the rotor assembly and the end turns adjacent the respective ends of the rotor assembly.” Applicants submit that Herman et al. fails to disclose a brushless DC motor having coils so arranged. As discussed during the interview, applicants submit that Herman et al. is not concerned with minimizing the gap between respective ends of the rotor assembly and the end turns adjacent the respective ends of the rotor assembly. Herman et al. states: “An important feature of the invention is based on our discovery that when the permanent magnet rotor is construed using material having an energy product in the range of 0.30 – 47 MGOe, these magnets generate such a large field, even in air, that the small gaps of a conventional motor design are not necessary and the wire wound cylindrical stator of the present invention is a viable alternative.” [Herman et al. col. 4, lines 36 – 42]. In contrast, applicants’ invention of claims 1 and 11 is concerned with minimizing the gaps between the end turns of the coil and the rotor assembly which improves power efficiency and coupling between the coils and the permanent magnet of the rotor, allowing for the use of less costly permanent magnets. This is described in the application at p. 6, lines 9 – 14, p. 9, lines 4 – 17. In this regard, applicants note that material having an energy product in the range of 0.30 – 47 MGOe tends to be the most costly material of which to make permanent magnets. Applicants submit that claims 1 and 11 are thus allowable.<sup>1</sup>

---

<sup>1</sup> Applicants have presented a similar argument in response to the Official Action mailed September 22, 2004 in USSN 10/169,638 with regard to a rejection of claim 14 of that application based in part on Herman et al.

Claims 7 – 10 depend directly or indirectly from amended claim 1 and claims 12 and 13 depend from amended claim 11, and are allowable for at least that reason.

Claim 10, which depends from claim 1, recites that the “permanent magnet is magnetized after the plurality of coils are wound.” As discussed during the interview, applicants submit that Herman et al. does not specifically disclose that the permanent magnets of Herman et al.’s rotor are magnetized after the coils are wound. Applicants submit that claim 10 is allowable over Herman et al. also for this reason.

#### **REJECTION UNDER § 103**

Claims 3 – 6 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Herman et al. as applied to claim 1 in view of Shramo. For the reasons discussed above with respect to claim 1, applicants submit that Herman et al. fails to disclose the limitations of amended claim 1. Applicants submit that Shramo also fails to disclose the limitations of amended claim 1 and in particular those that require that the end turns of the coils be arranged to minimize any gap between respective ends of the rotor assembly and the end turns adjacent the respective ends of the rotor assembly. Applicants submit that claims 3 – 6 are thus allowable over Herman et al. in view of Shramo.

## CONCLUSION

Applicants believe that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this response is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: *JAN 14, 2005*

By: *RA Fuller III*  
Roland A. Fuller III  
Reg. No. 31,160

HARNESS, DICKEY & PIERCE, P.L.C.  
P.O. Box 828  
Bloomfield Hills, Michigan 48303  
(248) 641-1600

RAF/akb